

# How to calculate demand for retail

*By one estimate, roughly 1,500 new housing units are needed to build one new block of stores.*

Many communities hunger these days for "Main Street retail" or "neighborhood retail." Few, however, know how many households — and shoppers' dollars — are needed to make a shopping area successful. Retail has posed a persistent challenge for new urbanists.

Goody, Clancy Associates, a Boston architecture and urban design firm, has used its experience to devise a mathematical formula for retail and housing. "It's important to examine these sorts of relationships, particularly when you're trying to revitalize older neighborhoods or to create new communities," says David Dixon, head of urban design. "This is not a science," Dixon cautions, "but a way to determine order-of-magnitude relationships. The broad numbers I usually use are meant to provide a range and to emphasize the imprecise nature of the calculations."

The example below, from a study in eastern Cambridge, Massachusetts, lays out the basic steps Goody, Clancy uses to match retail to housing.

**Start with the volume of retail you're aiming for.**

In Cambridge, Goody, Clancy determined that the blocks were about 300 feet long and assumed that the stores' average leasable depth would be 60 feet. (Housing was to be built above the retail; a 60-foot depth is suitable for up-

per-story apartments on a double-loaded corridor). Assuming that the retail would occupy both sides of the street and would fill 80 percent of the street frontage, Goody, Clancy estimated that the block and depth dimensions would produce 30,000 square feet of retail. "For many revitalization projects, it is appropriate to look at the needs of several blocks, so 100,000 square feet might be a planning goal," Dixon notes. "Similarly, if one wanted to create a neighborhood-scale commercial center for a new community, 100,000 square feet might be a reasonable goal.

**Next determine how many dollars of sales per square feet are needed to support the retail.**

In eastern Cambridge, the range needed was \$300 to \$400 of sales per square foot — partly a reflection of the area's prevailing retail rents. Multiply the midpoint of those two figures (\$350) by 30,000 square feet, and you discover the gross sales required for a block of retail. In this case, it's \$10.5 million. In many communities, construction costs and rents are lower, allowing the retail sales figure to be lower — perhaps \$200 to \$300 per square foot.

**Next determine the percentage of disposable household income spent on neighborhood retail purchases, and therefore the total household income necessary to generate sufficient gross sales.**

In the Boston area, Pam McKinney of Byrne, McKinney real estate consultants estimated that roughly 60 percent

of household income is disposable income (i.e., income after taxes and housing costs have been deducted). Thirty-five percent of disposable income is spent on retail purchases. Fifteen percent of the retail spending consists of purchasing in neighborhood or Main Street establishments, those close to home. Therefore, divide the total sales needed (\$10.5 million) by .60. Divide the resulting figure by .35. Then divide that result by .15. This produces a figure of \$333.3 million — the total disposable income needed to support 30,000 square feet of retail. The percentages would not vary greatly among different markets, according to McKinney.

**Then determine the number of households, and therefore housing units, required to produce \$333.3 million in disposable income.**

McKinney assumed the average household income for new dwellings in eastern Cambridge would be approximately \$75,000. Dividing \$333.3 million by \$75,000 reveals how many households are needed: 4,444. "Very high- or low-income communities skew these numbers," Dixon points out. "For example, a HOPE VI community that includes 50 percent public housing residents might have an average disposable household income of less than \$40,000 and require roughly twice as many housing units to provide the same degree of support to retailers."

**Finally, determine the percentage of the required units that must be located within walking distance (approximately 10 to 15 minutes) of the retail to provide core support.**

This is a judgment call based on how

## When there's not enough demand — other ways to fill a block

In a theater block that Moule & Polyzoides Architects designed in downtown Albuquerque (see Dec. 2002 *New Urban News*), some of the storefront retail extends only 30 feet deep, rather than the 60 feet that Goody, Clancy believed necessary in an eastern section of Cambridge, Massachusetts. That difference in depth hints at how difficult it is to arrive at hard and fast conclusions about retail. Many assumptions about retail vary with the project, the place, and the person who is doing the calculations.

On the theater block, retail is intended mainly to enliven what would otherwise be a dull, windowless stretch of streetscape. A retail enterprise capable of operating in a very shallow space can animate the sidewalks. "Coffee shops and bakeries can be put into spaces of any depth," says Bill Dennis, head of Moule & Polyzoides' Albuquerque office. "Of

course, the less depth they get, the more frontage they need."

On the perimeter of a parking garage that's under construction in Albuquerque, Moule & Polyzoides designed ground-floor retail spaces 45 feet deep, matching the depth of loft apartments in the upper stories. Local tenants are the retailers most likely to accept a very shallow retail space, according to Dennis. National and large regional tenants prefer 60- or 80-foot-deep stores, he says. "Junior anchors such as Banana Republic and The Gap like 120 feet."

Where the initial demand for retail is weak, another alternative is to build live/work units. These may house services or professional offices along the street. Though not as lively as stores and restaurants, they're more pedestrian-friendly than are blank walls or plain parking garages.

much of the customer support is local and how much will come from farther away—from people who see it as a destination worth a longer trip. In eastern Cambridge, McKinney projected that roughly 25 to 35 percent of the retail sales would have to be generated by new housing nearby. The rest would be from drive-by and other shoppers who would be attracted once the retail was operating. The conclusion was that eastern Cambridge would need 1,200 to

1,500 new housing units to support one block of retail. Generally, the proportion of financial support that must be generated locally ranges from 25 percent to 75 percent; for isolated retail in new communities, it may be 100 percent.

How does all this shake out? "I think it fair to say that in a great many situations, a block of new retail would require approximately 1,500 units of new housing within walking distance (plus or minus as many as 500 units,

depending on the factors above)" Dixon says. "The principal exceptions are low-income or isolated communities, which require a larger number of units, or higher-income communities, which require fewer. A 100,000-square-foot neighborhood center could require roughly three times as many housing units. The larger the center, the more it can become a destination in its own right and not need as many households within walking distance." ♦

## Build a town center, and homebuyers will follow

In 1988, civic leaders in Smyrna, Georgia, several miles northwest of Atlanta, realized they needed a town center. The old downtown had practically ceased to exist, becoming not much more than a collection of "antique shops and a few other things," recalls Pete Wood, a 13-year councilman. "It was time to craft a vision for the future. We believed that if we created something downtown that would be a gathering place, then there would be opportunities for quality housing."

Today the results are in. Smyrna Town Center, created with guidance from Atlanta-based Sizemore Group architects and planners, contains a 28,000-square-foot public library, a 55,000-square-foot community center, a 25,600-square-foot municipal services building, a 42,000-square-foot public safety building, a town green and park, a fire station, seven eating places, and a variety of retail, offices, and living quarters.

### RISE IN VALUE

In 1995, 26 detached houses, starting at \$129,000, were built along tree-lined streets with alleys and garages at the rear. Within six years they were worth \$225,000. Last October, the latest phase of Town Center opened: 16 two-story, 2,500-square-foot residential units on top of ground-level restaurants and stores. Those have sold for \$300,000 to \$350,000, says Wood, noting that upscale-for-sale-housing above retail "is a new concept in this area." Several hundred detached houses have been built nearby.

Mike Sizemore says Smyrna was a blue-collar area "surrounded by sprawling kinds of places" and "was not getting its share of growth" until Wood, Mayor Max Bacon, and others decided the city should acquire and redevelop approximately 28 acres as a town center. The municipality "created a place where people could bring their families for all sorts of events," Wood says.

"The downtown was the catalyst for a lot of homebuilding around the city," Wood points out. "There are a lot of upscale subdivisions" where houses run from \$300,000 to \$1 million. The city's population, 34,000 in 1990, has since grown to about 46,000. The Town Center has become a destination for people considering developing a town center in their own communities. "We're averaging about one out-of-town touring group a week," Sizemore says. He notes that a major Atlanta area firm, John Wieland Homes and Neighborhoods, now is "pursuing this form of development as an anchor in its large housing developments." ♦



Townhouses in Smyrna Town Center

## Following an ancient path

The cranky path of a 2,500-year-old canal is the route that architect Bill Dennis has chosen for "Canal Walk," the narrow main neighborhood street to be built in a Tucson development called Rio Nuevo. "The remains of the canal were found about six feet below ground," says Dennis, director of the Albuquerque office of Moule & Polyzoides Architects, which has planned approximately 13 acres of the 62.5-acre development. A decision was made not to unearth the dirt canal, but to use its route for a street tightly lined by traditional Southwestern buildings.

Builders who have worked in the old Hispanic Barrio in Tucson will construct houses at Rio Nuevo with local materials, such as rammed earth and adobe. Walls of buildings and courtyards will define the streets. Most housing will center on small plazas. A 40-foot-high adobe church known as a convento, which had largely disintegrated, will be rebuilt. The developer is Tucson-based Rio Development, headed by Jerry Dixon.

The lots are being sold in increments of six feet, with most lots measuring 18, 24, 30, or 42 feet wide. A major street, the Avenida Del Convento, will have wide sidewalks

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